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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,713	03/19/2004	John E. Barth Jr.	BUR920030191	2712
29371	7590	06/14/2005	EXAMINER	
CANTOR COLBURN LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			HUR, JUNG H	
			ART UNIT	PAPER NUMBER
			2824	

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/708,713

Applicant(s)

BARTH ET AL.

Examiner

Jung (John) Hur

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-10, 12-16 and 18 is/are rejected.
- 7) ☒ Claim(s) 5, 11 and 17 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/19/04</u> . | 6) <input checked="" type="checkbox"/> Other: <u>search history</u> . |

DETAILED ACTION

1. Claims 1-18 are pending in the application.

Information Disclosure Statement

2. Acknowledgment is made of applicant's Information Disclosure Statement (IDS) Form PTO-1449, filed 19 March 2004. The information disclosed therein was considered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 6-8, 12-14 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Ackland et al. (U.S. Pat. No. 5,604,705).

Regarding claims 1, 7 and 13, Ackland, for example in Figs. 1 and 2, discloses a method and an apparatus for implementing a read operation for a static random access memory (SRAM) cell (see for example the title and the abstract), the method comprising: activating a word line associated with the SRAM cell (inherent); deactivating a precharge circuit (including T12 and T13) configured for precharging a pair of complementary bit lines (BIT and /BIT) associated with the SRAM cell (see PRE signal at a low state during SENSE and EVAL cycles in Fig. 2); selectively coupling a corresponding pair of complementary sense amplifier data lines (B and BN) to said pair of complementary bit lines associated with the SRAM cell (by activating T1 and

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T2; see SELECT signal in Fig. 2); and setting a sense amplifier (including T3-T6) so as to amplify a signal developed on said sense amplifier data lines (by activating T7; see EN signal in Fig. 2), wherein said bit line pair remains coupled to said sense amplifier data lines at the time said sense amplifier is set (see EN signal at a high state and SELECT signal at a high state during EVAL cycle; note that SELECT signal at a high state activates T1 and T2; column 2, lines 40-49).

Regarding claims 2, 6, 8, 12, 14 and 18, Ackland further discloses clamping one of said pair of complementary sense amplifier data lines to a logic high voltage upon activation of a word line associated with the SRAM cell (via T14 and T15; see for example column 3, lines 56-60); wherein said pair of complementary sense amplifier data lines is coupled to said corresponding pair of complementary bit lines through a pair of activated bit switches (T1 and T2).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3, 4, 9, 10, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ackland et al. (U.S. Pat. No. 5,604,705) in view of Wong (U.S. Pat. No. 6,341,083).

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Ackland discloses a method and an apparatus as in claims 2, 8 and 14 above, with the exception of said clamping to said logic high voltage being implemented through configuring the SRAM cell with PFET access transistors, and through one of a pair of pull up transistors within the SRAM cell.

Wong, for example in Fig. 2A, discloses an SRAM cell with PFET access transistors (PL and PR).

Since Wong teaches that an SRAM cells with PFET access transistors improves the cell stability, lowers the cell power dissipation, and requires less surface area (see for example column 1, lines 5-11), it would have been obvious at the time the invention was made to a person having ordinary skill in the art to apply the sensing means of Ackland to SRAM cells with PFET access transistors (as disclosed in Wong), such that, inherently, one of the sense amplifier data lines would be clamped to a logic high voltage also through one of a pair of pull up transistors (for example, P1 or P2 in Fig. 2A of Wong) within the SRAM cell, for the purpose of providing a high speed, less complex, low power means for sensing SRAM cells with PFET access transistors (see for example Ackland column 1, lines 56-62).

Allowable Subject Matter

7. Claims 5, 11 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

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Regarding claims 5, 11 and 17, the prior arts of record do not disclose or suggest a method or an apparatus as recited in claim 5, 11 or 17, and particularly, said pair of pull up transistors within the SRAM cell has larger a pull up strength relative to a pull down strength of a pair of pull down transistors within the SRAM cell.

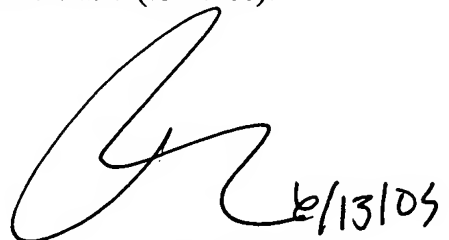
Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jung (John) Hur whose telephone number is (571) 272-1870. The examiner can normally be reached on M-F 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jhh

A handwritten signature in black ink, appearing to be 'R. Elms', with the date '6/13/05' written to its right.

**RICHARD ELMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800**